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Charm baryon spectroscopy at CDF

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We present a study of the first orbital excitations of the Λ_c baryon, the resonances $\Lambda_c(2595)$ and $\Lambda_c(2625)$, in the decay channel $\Lambda_c^+ \pi^+ \pi^-$ as well as the Λ_c spin excitations $\Sigma_c(2455)$ and $\Sigma_c(2520)$ in its decays to $\Lambda_c^+ \pi^-$ and $\Lambda_c^+ \pi^+$ reconstructed in a sample corresponding to 5.3 fb^{-1} of data collected by the CDF experiment. Exploiting the excellent CDF mass resolution we present measurements of the mass differences with respect to the Λ_c and the decay widths of these states using significantly higher statistics than previous experiments. The lineshape modification of $\Lambda_c(2595)$ due to its dominant threshold decay to $\Sigma_c(2455) \pi$ is properly taken into account.

Primary author: THE CDF COLLABORATION**Presenter:** WICK, Felix (Karlsruhe)**Session Classification:** 04 - Hadronic Structure, Parton Distributions, soft QCD, Spectroscopy**Track Classification:** 04 - Hadronic Structure, Parton Distributions, soft QCD, Spectroscopy